

ABSTRACT

A recombinator device and associated method for re-acidification of an electrolyte in a flowing electrolyte zinc-bromine battery. The recombinator device receives hydrogen, formed as a result of electrolysis within cell stacks of the zinc-bromine battery, as well as aqueous bromine from the zinc-bromine battery. Upon receipt, the hydrogen and bromine are introduced into a reaction chamber in the recombinator device so as to form hydrobromic acid. The hydrobromic acid is then reintroduced back into the electrolyte of the zinc-bromine battery for re-acidification of same.

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